

Canberra Botanic Gardens

GROWING NATIVE PLANTS

Vol. 3, 1973



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Clianthus formosus: *Clianthus*—from the Greek words, kleios, glory, and anthos, flower; *formosus*—beautiful.

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TELOPEA MONGAENSIS

Telopea mongaensis:
Telopea—from two Greek words meaning distant and colour, i.e. seen from afar, meant originally for NSW Waratah; *mongaensis*—from one of its places of origin, Monga, a small timber settlement in rain-forest country

Braidwood Waratah (*Telopea mongaensis*) has proved the most reliable Waratah in Canberra Botanic Gardens, and to have it thriving and thus representing this famous group of native plants in this type of climate is an important achievement.

Braidwood Waratah is the nearest Waratah to Canberra found growing in the wild. It grows in a restricted area at Monga near Braidwood, New South Wales—in mountain forest and where dry country changes sharply to wet sclerophyll forest.

In the deep humus of the forest it is common (often by creeks) as a seedling or larger on shrub to 4 m with a few long, straight branches. These are upright, thin and tough and terminate in flat heads of flower. Other plants, for example, on nearby Clyde Mountain, are 1.5 m high, stiff, irregular and spreading. They are well-branched through suckering, by which plants live many years.

Braidwood Waratah is prominent during October—the ruby red flowers shine from afar in the dark forest where they are the largest flowers around.

Examples may be seen in several sections in Canberra Botanic Gardens and are most advanced in a nearly flat, sheltered bed shaded in parts by tall Eucalypts. Soil was added from river excavations and in recent years a 10 cm layer of leaves and bark chips has been added also. Till then progress was slow, though most of the 20 original plants have survived droughts and severe winters. With present moderate regular watering the shrubs are growing steadily; they have many short laterals and are leafy to ground level.

Stems are fairly thick, stiff and tough and the shrubs either spread or curve in slightly. They are an irregular batch in size and shape with an odd long branch here and there, and grow up to 1.5 m high and 2 m wide at nine years old.

Younger plants on the banks of the Rainforest Gully are growing more quickly, never having been checked. This and other species from cool moist places can be grown well, with well-ripened wood in full sun, if the root area is protected and watered.

Leaves are up to 15 cm long, oblanceolate to obovate, and not prickly but smooth and leathery, fairly thick and always unblemished. Most of the year they are rather dull until early summer when the growth is fresh and attractive with yellow-green tips.

Plants flower at several years old and the season starts in late October ending with a few small late flowers in mid-December induced by good watering. Nearly all stems flower and the heads are up to 12 cm across, often crowded as the laterals are very short.



The head has about 20 tubular curved flowers in tones of rose-crimson to ruby red.¹ They are waxy, thick and long-lasting and though smaller and less spectacular than the New South Wales Waratah are very striking.

During November, the main season, new branches emerge from below the flowers, yellow-green stems which look like good cutting material. A few cuttings will root, though when struck under glass in mist they tend to drop leaves and to be held up by thick calluses.

Seed is generally used in propagation, succeeding if sown fresh, and the species should be in plentiful supply when better known. It has already been used in hybridising trials with the other *Telopea* spp.

Winter protection is not given to plants in sun or shade though in some districts a nightly covering during winter would be advisable. Pruning is not done as the plants are quite bushy, and light feeding with blood and bone twice yearly seems adequate nutrition.

The only disorder seen has been die-back caused by root-rot fungus (*Phytophthora cinnamomi*), and two plants may have died from this cause. Other affected plants soon recovered, partly due to the habit of suckering.

Grown with the care suggested here, this Waratah could be popular in private gardens and around public buildings, if watered well. It is also an excellent tub plant for part shade.

The other three species of *Telopea*, *T. speciosissima*, *T. oreades* and *T. truncata* have lived to flower in Canberra Botanic Gardens, but did not have the same strong suckering habit to carry them through early droughts and severe winters. Trials with these will continue, and meantime several are good pot specimens in the shade house.

Telopeas occur on sandstone, in moist forests and in the mountains of Tasmania, Victoria and New South Wales, but not in cold, dry habitats.

The best known is the New South Wales Waratah, *T. speciosissima*, the first to be discovered, in Botany Bay. Soon after settlement it was hurried back to England in 1789 and later called the finest of the Proteaceae. In the northern hemisphere it is an emblem of this exotic plant family of southern lands, and a treasure of a few gardens outdoors in very mild areas.

Australians know it well, whether gardeners or not, though it is cultivated mainly in the eastern States. It is the floral emblem of NSW is shown on postage stamps, and is



Telopea mongaensis

grown commercially for superior cut flowers of great size.

The name Waratah is said to mean flowering tree or red flowering tree, one of several versions of an Aboriginal expression and referring to the New South Wales Waratah. However, an early record states that this was called Mewah by the Aborigines,² who would suck nectar from the flowers.³

1. Horticultural Colour Chart, the Royal Horticultural Society, London, 1941, colour ruby red 827/3 or RHS Colour Chart, 1966, colour red purple 61 A & B.

2. G. Thornton in *Notes on the Aborigines of New S. Wales*. Chicago publications, 1893, p6.

3. J. H. Maiden in *Proceedings of the Linnean Soc. of New S. Wales*. Vol. 3, 1888, p548.

BAECKEA LINIFOLIA

Flax-leaf Heath Myrtle (*Baeckea linifolia*) is a delicate weeping shrub from moist habitats in Eastern Victoria and New South Wales, conspicuous for its very fine, straight leaves and stems. It has proved tough, however, in growing at Canberra Botanic Gardens and has survived drought well.

Baeckea linifolia: *Baeckea* — after Dr. Abraham Baeck, a Swedish physician and early explorer; *linifolia*—flax-leaved, *Linum* being the scientific name of flax



It is a useful size for small gardens, remaining at a 2 m tree-like shape and only bushy at the base if trimmed for that purpose. This is a shrub not for distant viewing or bold effect but for near planting where the tiny white flowers can be seen, or a leaf bruised now and then for its spicy perfume.

At Canberra Botanic Gardens examples can be seen in built-up soil mulched with bark chips, and shaded by tall trees. They survived drought years, though growth was sparse and dull, and recovered when regular watering became possible. Light shade is a definite advantage, protecting the top growth from drying out; no winter protection is needed.

Tip growth on the weeping branches is very free, with narrow, even leaves about 2 cm long. They are smooth and waxy, showing numerous transparent dots (oil glands) when magnified. The foliage of a healthy watered shrub shines, turning purple in winter, an advantage of the Canberra climate noted on many species in these Gardens.

The tiny, pure white flowers are a perfect shape, with five petals, and resemble *Leptospermum* (Tea Tree) to which the genus *Baeckea* is related. All face upwards on the stems and for their size are quite showy, specially on the purplish background, as one of the best flowering times is June to July. A flush of flowers can occur at any time from early February; in fact they are completely absent only during a short rest from late spring onwards.

The seed capsules are like tiny bells on short stalks and they also turn red in ripening, making this a shrub of changing tints. Capsules brought indoors release numerous fine seeds and these or summer cuttings are used in propagation.

Plants can sometimes be obtained from nurseries dealing in native plants and can be planted in most soils as long as they are free from lime and sheltered from drying winds. One attractive use would be in small groups in a lawn, with smaller plants beneath and, as the plant is very flexible, it could be used, trimmed if necessary, among rocks.

If pruned for bushy growth it probably would be tall enough to help in covering a back fence—a constant need in a new garden. Sprays of cut flowers live well in water, continuing to open and, if desired, this can help towards pruning.

Pests and diseases have not been seen, except for some die-back, possibly due to Root-rot fungus (*Phytophthora cinnamomi*) in water-logged conditions caused by continuous rains. This shows that, though moisture is needed, drainage must be good.

CASUARINA Spp.

It is a pleasure to know faultless garden plants such as these graceful trees and shrubs with their leafless, stringy branchlets. They have economic and decorative value, lacking only in brilliance in their flowers.

Early settlers at first took the tree types for Pines or other conifers and, on investigating their value, found high-quality timber, fuel and fodder for sheep and cattle, specially in droughts.

At the foundation ceremony at Sydney Cove in 1788, the first flag was hoisted on a *Casuarina glauca*.¹

Possibly due to the nature of the timber, which is hard for a fine grain, the trees were called 'Oak' or 'She-oke'. 'Oak' or 'Oke' is an ancient general tree name of Aryan languages, and 'She-' meant 'paler than' or 'inferior to'.²

Common names are numerous, and a well-known Aboriginal one is Belah, with other versions.

In former days bullock yokes were made with the tough, light timber, as well as many smaller items. Uses are less nowadays, but include chairs and tables made from Desert Oak (*C. decaisneana*).

Thirty to forty species occur in Australia, mainly in the west, and several others are found in South-East Asia. There is a *Casuarina* for every kind of habitat—from desert to wet forest, swamp, heath, dry rocky hills and salty soils.

The group is known for tenacity in hard conditions, including wind, and sizes range from dwarf shrubs to tall trees over 30 m high, according to moisture and shelter. For example, small trees can be seen at the coast hanging on in crumbling cliffs and leaning over beaches. Crowns of long, drooping branchlets, still healthy, shade the beaches, while new shoots rise from



Casuarina inophloia:
Casuarina—from
resemblance to the feathers
of Cassowary (*Casuarius*);
inophloia—from Greek
words, in, fibre, and phloia,
bark, i.e. fibrous bark

broken roots and limbs. Weathered old specimens give no indication of how lush the same species can be in garden conditions.

Casuarinas are among the softest-crowned native trees, and the branchlets are delicate when handled, snapping easily, yet entirely pliable in wind. They are from a few centimetres to over 30 cm long, according to species, and either drooping or upright. Some are in conifer-like tufts, and colours are dull to pine greens. Certain species are yellow-green or purple in young growth.

In appearance Casuarinas resemble conifers, Horsetails (*Equisetum*), Broom (*Cytisus*) and some other Australian small trees, but can be recognised by stem details—seen best with a hand lens—and by the cone-like fruits.

1. The Australian Encyclopaedia, Vol. 2, p 283—'Casuarina', by J. H. Willis (The Grolier Society of Australia).

2. The Forest Flora of New South Wales 1907 (Government Printer, Sydney), by J. H. Maiden. Vol. 2, pp 74-85.

The thin branchlets are finely ridged with joints at intervals, round which are tiny teeth-like scales in place of leaves. The work of the absent leaves is done by the green stems, and the number and spacing of these details separate one *Casuarina* from another.

Male and female flowers are separate, on the same or on different trees. The former, bearing pollen, are like tiny fringes towards the branch ends and the latter, bearing seeds, are oval to oblong tufts on older wood, further back.

In general they add golden brown or reddish tints to the trees and are variable in quantity, but the flowers of *C. littoralis* are rich red, small oval tufts and showy. This was seen on an older tree in Canberra Botanic Gardens one autumn after good showers.

Elegant cone-like fruits set in masses on some plants and sparsely on others. They range from about 1 cm to 7 cm long, according to species, and are smooth and ornamental. When cones set fully they are neat oblongs and when the set is incomplete they are knobbly and irregular.

Picked cones open in a few days and release copious slippery seed. This is the easy and ready means of propagation, and a number of species, specially the trees, are well-known commercial lines, having been used first for economic purposes.

In Australian gardens Casuarinas excel in giving rapid results, so often needed in private and public places. As saplings they are strong, clean and mature-looking and they age to trees of character. In light soil, with watering and with a mulch, growth is upright and lush. Plants dependent on rainfall may be sparse and open in dry areas, surviving well until moisture comes and growth fills out.

They can be planted singly, in groups or for hedges, and are splendid as fence covers, lawn specimens, windbreaks and background. Some can be tub plants, others support for certain ferns and orchids in suitable climates. Trunks are straight and dark brown and the limbs thin. The attractive bark is corky, hard or crumbly, and patterned with shallow or deep grooves. One species, *C. inophloia*, has lighter brown, fibrous bark.

Casuarinas are perfect near larger-leaved plants with blue-green or silvery leaves, heavier or twisting limbs, or pale bark as in *Eucalyptus*.

As glasshouse plants in colder countries they would contrast well with another famous Australian native plant, Silky Oak

(*Grevillea robusta*). They should be handled the same way as seed is not scarce.

Grevilleas, as graceful fernlike seedlings, are widely raised in pots for decorations; they are discarded when leggy at about 2 m high.

Casuarinas are not only of economic and ornamental interest, but also an interesting problem for botanists, for they are unlike any other plants in the world. They are known to have existed in ancient times, but are unrelated to any of the plants they may resemble, being a family on their own.

Shrubby and tree types dating from 1950, together with younger examples, can be seen in variety in Canberra Botanic Gardens. All the older plants have survived climatic extremes on a sunny, rocky slope during years when watering and mulching were rarely carried out.

The younger examples mentioned have grown without check in softer conditions—the largest being 8 m high at five years old—and have overtaken older trees.

As a group they are unblemished, the worst trouble coming from root-rot fungus (*Phytophthora cinnamomi*). During 1968-70 several young plants were lost in water seepage and many others showed some die-back. New growth was made quickly later, direct from main trunks or at cuts across main limbs, but this did indicate that to guard against the disease being present, garden drainage should be adequate.

Pruning for bushy growth is not done at the Canberra Gardens but can be done whenever desired. Routine light dressings of a general fertiliser (10:9:8) are given once or twice a year. Winter protection has not been given and tips on young lush plants in some species would only be frosted.

Some of the best species, as they perform in the Canberra Gardens, are:

C. cristata (Belah or Black Oak) occurs across the continent as a small tree, reaching 15 m high with moisture. Seed from Queensland has given the present form of a pretty shrub, yellow green and delicate, Horsetail in effect with upright branches. The plants are up to 3 m high at five years old in sheltered, moist conditions.

C. cunninghamiana (River Oak or Fire Oak) is a tall species of Queensland and New South Wales, reaching 30 m high. The dark pine-like tufts are known for high quality fodder. Because it binds river banks and prevents erosion, it is protected by law. At the popular Cotter Dam area near Canberra, tall narrow pyramids can be seen with roots partly in water.



Casuarina distyla:
distyla—with the style
divided in two (in the female
flower)

C. glauca (Grey Buleo or Swamp Oak), of New South Wales and Queensland, grows by rivers and in swamps and coastal sites. An old tree at the Gardens is 7 m high with a trunk 10 cm in diameter. Branches are uneven and not dense and branchlets are sparse, fairly thick and long. There are a few cones near the top. Younger plants vary, some being rounded and wide-angled and the species is one resembling Horsetail.

C. inophloia (Stringybark Oak) of the same States, but growing in drier, sandstone situations, is a lesser-known species. In these Gardens it is the most distinctive Casuarina and highly successful also. The bark is a pleasant warm brown, deeply shredded, with fibres which curl and look loose. However, they are tough and strongly matted, forming a contrast with other bark and corky-barked Casuarinas.

Three older trees are up to 6 m high, sturdy, narrow pyramids with thin side branches which droop, then turn up. The branchlets are short, dense and feathery, constantly a fresh dark green even in the harshest summers. One tree has a few small cones near the top.

C. littoralis (Black She-oke), of the eastern States and Tasmania, can grow in rather dry forests and down to the coast, at most 13 m high. It is a most useful garden species with short and very fine branchlets in dense tufts. An old 8 m tree in the Canberra Gardens is sparse and oval, never trimmed and with a trunk 40 cm across, deeply grooved.

It was at its best in 1968, when showers brought even flowering. The female flowers, rich red tufts 1 cm long close on the branches, opened in late April and did not fade till mid-September. Cones are few on this tree. Younger plants differ and are slender pyramids to 5 m high at five years old. Side branches are well apart, tapering and drooping. Examples can be seen in sun and shade.

C. nana (Stunted or Dwarf She-oke) is a shrubby example from New South Wales and Victoria. The most attractive plants in these Gardens are 1.5-2 m high and 3 m across at 20 years old. Long, spreading branches are massed with 1 cm knobbly cones.

C. stricta (Drooping She-oke) is another well-known and useful species with good timber; it is specially noted for its fodder value. Early bushman discovered that the branchlets, more acid than others, as well as the young cones, can be chewed to allay thirst.

It grows throughout temperate Australia and grows wild on several Canberra mountains where weathered old trees can be seen, around 7 m high. The long branches droop and are rather thick and dull, often less noticed than the masses of regular, dark cones over 5 cm long. Curved branches of these are highly ornamental, needing no water.

This is an excellent garden species though it may not stand bad drainage. This was indicated at Canberra Botanic Gardens when a few young plants were lost in a water seepage area.

C. torulosa (Forest Oak), of New South Wales and Queensland prefers better soils and moisture, though it occurs on poorer soils also. It has been the most admired Casuarina at the Canberra Gardens, being entirely purple while young, specially in winter when the shining branchlets are darkened by cold. Lush pyramids reach to 5 m high at five years old, in full sun. Growth is very fine, tapering and drooping at the tips.

Considerable die-back was seen in these soft-growing plants, but they soon recovered. They recovered also from frosted tips in the severe winter. An older tree is olive green, with yellow-green tips in summer turning purple in winter.

AGONIS JUNIPERINA

Most gardens have a corner where a columnar-shaped plant is needed with some height—such as by a drive, between a house and fence or somewhere along the house walls. It may also be wanted for contrast among spreading forms in the shrub borders.

Something like a Cypress is the answer; but introduced conifers are too big if fast-growing or too slow if the right size and shape. For this purpose there is a Western Australian native species, *Agonis juniperina*, which is better for several reasons.

It is a lightweight shrub under 7 m high in Canberra—though it can reach 13 m in some of its native habitats—and grows with exceptional speed, giving the quick cover desired in new gardens. It flowers for most of the



year, except for a brief rest in summer heat.

Any soil and situation is suitable, but it keeps in better condition in light shade as it is slender and brittle with foliage easily drying out and falling if exposed to hot sun. The leaves are thin and narrow, about 1 cm long, and the general effect on a healthy plant is a dark, fresh green, neat rather than striking.

When the leaves and young stems are bruised they release a lovely, spicy perfume from which the plant is recognised to be a member of the family Myrtaceae. It is closely related to *Leptospermum* (Tea Tree) and at least 10 *Agonis* species are known, all restricted to Western Australia.

Of those tried in Canberra Botanic Gardens, *A. juniperina* is the most vigorous and generally useful species and quite unaffected in the coldest winters. It withstands drought but is not at its best unless watered moderately.

To keep a compact and leafy column the shrub needs trimming lightly, possibly in late August or early September in Canberra or when resting around February. The natural development at about 3 m high is for the long thin branches to sway and spread to 1-2 m across near the top. In a plant of this type, growth is more towards the branch ends, and sparse in the lower few feet, revealing branches with light brown fibrous bark throughout.

Although the flowers are not showy, they are seen at a distance as upright whitish spikes at all levels of the shrub. It is at its best between March and June and often during winter, if watered.

The tiny flowers resemble those of *Leptospermum*, and would be pure white but for a dark eye and a purple tinge at the base. They are stemless, in firm, round clusters at the tips of branches and many short, delicate laterals.

Some seed sets in Canberra, but cuttings are generally used for propagation and they root easily (see 'Growing Native Plants' Vol. 2).

The only pest has been slight scale in some years with the resultant smut fungus and, apart from trimming away lower dead growth, little attention is needed. The good practice of mulching would be beneficial, and drainage should be as good as possible.

Agonis juniperina: *Agonis*—from two Greek words meaning without angles, alluding to the softly drooping branches of *Agonis* species found before this one and therefore misleading; *juniperina*—juniper-like

HAKEA SERICEA

Silky Hakea (*Hakea sericea*) is a large shrub of New South Wales, Victoria and Tasmania, with a form in the Australian Capital Territory which is noticed in winter when full of flower. The common name refers to silky hairs on the tip growth, and Needle Bush, the general name for Hakeas with cylindrical sharp leaves, is more descriptive.

The leaves are rigid and 6 cm long, and a prick from one of their pungent points is to be avoided. Unless wanted for a deterrent barrier, plants should be grown where they will not be brushed against. A strong, trimmed hedge could be made, or in a small garden a good place for it would be back against a fence.

Another way is to have a clear trunk with the spiny crown well out of the way, either spreading or lightly trimmed. This makes an unusual 7 m tree, decorated with woody fruits at all levels as they do not fall off.

Allowing for its sharp points, Silky Hakea has many good features and can be a useful shrub, with flowers and foliage both interesting. In light, watered soil it grows at least 5 m in seven years, with stiff growth, the heavy branches arching at the tips. Examples can be seen in Canberra Botanic Gardens, smothered with foliage and deceptively lush from the distance, even feathery, as the leaves have no gloss. The effect is not unlike some conifer.

Very restricted watering or heavy soil produces a plant on a smaller scale, with smaller leaves and fruit but still tough and healthy; it has good drought resistance. Older specimens can be seen, dating from 1960, 6 m high and showing the effects of past severe droughts in lightweight and sparser growth, and small old fruits. Some of these are green-tinged at the base with tiny lichens.



Hakea sericea: Hakea—after Baron von Hake, patron of botany in the 18th century; *sericea*—silky, alluding to fine hairs on young growth

In the home garden, sparse wood can generally be pruned to make it bushy, but pruning is kept to a minimum in a botanic garden so that the plant's natural response to varying conditions can be watched.

A freely growing shrub has yellow green tints with tip growth in summer, turning



Hakea sericea

bronze in autumn and then purple, which can spread over the plant by mid-winter if it is in a sunny position. The species is exceptionally healthy in the Canberra climate with its cold winter.

Regardless of whether flowering is profuse and reliable every year, this is one of several Hakeas good for winter flowers in Canberra. The season is between May and October, and the plant is at its best in July and August when in some years it may attract bees. There is a scent of honey or almonds.

The flowers are the only delicate part of the species and are like dainty pale cream curls close on the branches towards the tips. They are actually one to several narrow curved flowers on short stems in the wide angles of the leaves. A less common form has beautiful deep rose buds opening paler pink.

The curious knobbly fruits are around 5 cm long, with a double-pointed 'beak', solid wood, with light scaly patches while young. They accumulate for years and open only when the plant dies or is burnt. To obtain seed, the fruits are cut off with secateurs and brought indoors where they open in a few days, each fruit holding two large winged seeds. These are very easy to handle, germinate readily and are the best means of propagation.

This prolific seeding has caused the species to be labelled an introduced noxious weed in South Africa and parts of New Zealand, as attempts to burn or chop it out have merely allowed the seeds to be released. Control is being attempted by several imported insect species.

Luxuriant, heavy growth full of fruits can make upright specimens top-heavy, specially in light soils during stormy, wet spells. This caused the loss of two 3 m shrubs at the Gardens one winter, and a permanent lean in another. Some specimens have succumbed to root-rot (*Phytophthora cinnamomi*) in periods of high humidity.

The local form reaches 1 m high in the dry bush, occasionally 2 m, and patches of it are noticed in winter, tightly packed with flowers even when the season is arid. In rainy years it is renewed, and apparent seedlings crop up, which when examined are found to be suckers from upper roots of old plants of some unknown age. In fact this form sets only a few, smaller fruit and the seeds are not easy to germinate.

Local garden owners may find this form on their land and they would have a better chance of keeping it by leaving it where found, if possible, at it would not transplant well.

CROWEA EXALATA

The small Crowea or Waxflower (*Crowea exalata*) is a native shrub of Victoria, related to the Boronias, and valued for the quality and quantity of its flowers. One of its brightest displays come when most welcome, during autumn and winter. It is frost hardy and suited to cool and moist rather than hot conditions. Plants have been lost at about five years old following droughts and drying winds, though a well-watered and trimmed plant may be kept for years.

Of slight and flexible growth, it spreads outwards more than upwards, to about 1 m across by 70 cm high, and this is a good size at which to keep it. The general effect is dome-shaped, sometimes arching gracefully but more often twiggy and irregular.

The small narrow leaves are neat and smooth, but uninteresting in appearance. When bruised they release a bitter scent.

This species opens its perfect flowers most months of the year, resting only in extremes of heat and cold, and with flushes in autumn and spring. Pointed buds open to five-petalled starry flowers 2 cm across, in clear tints of rose purple. They are of a solid waxy substance, and make a vivid display for the size of the plant. Before falling they close again to look like buds of deeper pink. Seed has not been found in Canberra, but propagation by cuttings is easy using tip growth, which is very soft in character, at a half-ripe stage.

Nurseries dealing in native plants generally stock this small shrub and it should be planted in light, lime-free soil. A position with some shade is desirable—otherwise the soil should be shaded in some way from hot sun. This may be done by surrounding the plant with 5-10 cm of leaves, bush litter or compost. Rocks make an attractive setting, and in fact this is a beautiful rockery subject. Pruning should be done to maintain bushy growth, or a straggly plant with bare stems may develop. The end of winter is a good



Crowea exalata: Crowea—after an English botanist I. Crowe; *exalata*—wingless (its pertinence is doubtful and possibly concerns the fruit)

time to do this—or any time when sprigs of cut flowers are wanted, as these are dainty and long-lasting in water.

Another beautiful, related species is *Crowea saligna*, a small shrub less bushy in habit and weakly upright. It has larger leaves and flowers of the same vivid pink and it needs similar treatment. It is slightly tender to frost which brings up high foliage tints, and it may need protecting by hessian in winter. Flowering is from autumn to late winter.

CERATOPETALUM GUMMIFERUM

Visitors to Canberra Botanic Gardens are pleasantly surprised to find New South Wales Christmas Bush (*Ceratopetalum gummiferum*) thriving in Canberra and still red in late autumn, and they wonder how this is contrived. In 1972 it was the natural outcome of a cool summer and a mild autumn with no late heat waves, along with regular watering giving a good, and long, flowering season. The season was exceptional with the last fading tints in mid-June; generally they are over by late April or earlier.

It is hardy in Canberra as may be seen by a specimen 5 m high halfway up these Gardens, on a sheltered rocky slope, in full sun. The position was carefully chosen when planting in 1956 in existing sandy loam, and for several winters the plant was covered nightly with hessian. No protection is given now and the only damage is withering of the margins of some leaves catching early morning sun on frosty mornings.

This plant is now an upright pyramid, rather open, and showing a trend to tree form with two thin main trunks. It was previously a compact leafy shrub which grew fast when watering facilities were improved, whereas in earlier drought years progress was slow and flowering poor.

With present facilities younger plants are growing freely on the banks of the lower pond and the Rainforest Gully, in roomy beds and sheltered by trees or other shrubs. The soil is built-up and mulched with bark chips or leaves, and light annual dressings of blood and bone are given. They are not covered in winter.

It is always interesting to watch the emergence of a plant's form from the beginning, specially where at least a dozen can be observed. Several of these young shrubs, loosely rounded at first and flowering at 50 cm high, show strong central, upright branches by the time they are 1.3 m high, and a pyramidal trend.

Like *Bougainvillea* and *Poinsettia* the petals are not the brightest part of the plant,

but in this case the calyx lobes enlarge after flowering and are highly coloured. However, in *C. gummiferum* the flowers also are attractive—soft cream clusters over the light green glossy foliage.

The leaves are thin, each consisting of three leaflets with finely toothed margins, and golden green while young in summer. At this time a well-watered shrub is beautifully tinted with cream flowers and the first pink tints.

Flowers open from December onwards in Canberra and as each one dies its calyx enlarges and turns red and papery, looking like four or five petals. The colour is a warm carmine,¹ uncommon among native plants at this time.

Each 'flower' contains a single seed, a nut, and the whole falls when ripe. Seed or cuttings are used in propagation and the species is in general distribution. When sowing, the whole fruit with calyx lobes attached should be sown.

Canberra gardeners can confidently plant this species in almost any soil or situation desired except that open to strong winds, which would spoil the foliage. It reaches about 6 m high, though in its native habitats it can be 10 m.

In public grounds with some watering facilities, and around city buildings, it would be admired as a token to Australians of some of their best-loved wildflowers.

In case of unavoidable waterlogging through heavy rains drainage must be good, as some die-back was seen in a wet year when root-rot fungus (*Phytophthora cinnamomi*) was prevalent in the area. Some plants were temporarily set back by loss of branchlets.

Near the tall specimen described can be seen a related species, *Ceratopetalum apetalum*, a handsome, glossy shrub rare in this district. It is upright, 5 m high, with large dark leaves, and for the first time, in December 1968 at nine years old, it bore open sprays of very small creamish flowers. One of its common names is Coachwood, alluding to one of its timber uses.

Plants known in the Australian States as Christmas Bush are entirely different and have no connection with *Ceratopetalum*.

¹ Horticultural Colour Chart, RHS London, 1941, Delft rose 020/1. RHS Colour Chart, London, 1966, Red 47C.



Ceratopetalum gummiferum:
Ceratopetalum—from two
Greek words meaning horned
petal; *gummiferum*—gum-
bearing, alluding to the gum
richly exuded from cut bark

PROSTANTHERA LASIANTHOS

Several Australian native species called Christmas Tree or Christmas Bush are actually far apart, both in appearance and in botanical classification.

For example, in Western Australia it is *Nuytsia floribunda*, the brilliant orange tree related to Mistletoe and not found wild elsewhere. It is not yet widely cultivated in other areas.

New South Wales Christmas Bush is *Ceratopetalum gummiferum*, a popular plant described elsewhere in this volume.

Tasmanian Christmas Bush is one name for *Bursaria spinosa*, a shrub related to *Pittosporum* and often ignored in its wild state throughout temperate Australia. In a garden, it can be valuable for its scented cream flower sprays and seed vessels turning bright green, then bronze.

Victorian Christmas Bush (*Prostanthera lasianthos*), shown here, is the largest of the native Mint Bushes and has the widest distribution. It ranges from southern Queensland to Tasmania at levels from coastal to sub-alpine, and grows from 2 m in exposed mountain sites to at least 10 m high.

It is best known as a tall, graceful forest shrub about 5 m high, and is popular also in the gardens of native plant lovers.

Its habitat is by creeks and in the moist shade of dense, wet sclerophyll forests, where it may have room to develop a good shape or scramble through a tangle of vegetation.

Not far from Canberra towards the high mountains, it occurs in forest hollows, near tree ferns and luxuriant mosses, reaching 5 m. When not in flower it can be detected by its menthol fragrance when touched; though sometimes too strong, it is more pleasant than in some native Mint Bush scents.

Examples in Canberra Botanic Gardens vary greatly owing to different origins and



Prostanthera lasianthos:
Prostanthera—from Greek words meaning appendage and anther, referring to the structure of the stamens;
lasianthos—hairy flowers

different planting positions. Plant form, leaf, flower and flowering time all vary, making an interesting study.

Moist, shady conditions are not necessary for this species to grow, and it will recover from neglect as shown by older examples in the Gardens—5 m shrubs dating from 1950 and growing in full sun. They were shaped by past droughts and storms into sprawling irregular shrubs with thin branches on which the upper bark is attractive and shiny.

Storm loosening led to suckering branches which strengthened the shrubs and the bases became thick. Persistent upward stems replenished the frame after branches died back from drought or root-rot. In November they are weighed down with flowers nearly hiding the sparse foliage.

They are growing more leafy since the entire bed was mulched and watered regu-

larly. Younger specimens vary from compact ovals to tall lax shrubs, all tending to have long upright branches, few or many.

Any shape can be had by trimming after flowering, though in these Gardens shaping is avoided. It is of interest in a botanic garden to note over the years how plants develop in conditions more harsh or more favourable than in their natural habitat.

Prostanthera lasianthos is unaffected by frost in Canberra and will grow in light or stiff soil in sun or shade, but constant wind should be avoided. It is excellent for hiding a fence, as a tall hedge or by a red brick wall. With a good mulch and some watering it would thrive in city gardens, giving flower when most purple Mint Bushes have finished.

Foliage is attractive in plants growing freely and can be bright yellow green to darker green, hairless, sometimes shiny, and without blemish. Mountain forms and plants in full sun have slightly leathery foliage.

Leaves are up to 15 cm long and from 13 mm to over 19 mm wide, larger than in other *Prostanthera* spp. They vary in denseness, taper finely, and the margins are generally toothed, sometimes also waved or curved.

Masses of thin, soft flowers in wide-angled tapering sprays are the main attraction. The flowers are around 2 cm long and are funnel-shaped with spreading lower lobes. In the throat are tiny purple blotches and larger orange ones.

In some the flowers are otherwise white but others, highly prized, appear pale pink or mauve from a distance. Close inspection shows suffused blotches of pale purple or violet, extending sometimes to the calyces and thin flower stems. These latter are slightly viscid and in some cases even more scented than the leaves.

A separate light perfume can sometimes be detected in the flowers, but generally it is masked by the minty scents.

The flowering season is November rather than Christmas in Canberra though it lingers till January in some years, and no doubt Christmas flowers could be planned with the right form in a cool position.

A magnifier allows one constant feature to be seen in the flowers — they are coated inside and out with fine hairs, a fact which sets this species apart from other *Prostanthera* spp.

Short branches of flower last well in water, and are graceful and easy to arrange.

Propagation is by seeds or cuttings. The only disease noticed has been die-back from the root-rot fungus referred to elsewhere, and as mentioned affected shrubs have fully recovered later.



Bursaria spinosa: *Bursaria*—from the Latin, *bursa*, leather bag or purse, alluding to the shape of the seed capsules; *spinosa*—thorny

ACACIA TRIPTERA

Spur-wing Wattle (*Acacia triptera*) occurs in New South Wales and Queensland on sandstone and gravel ridges, and in Victoria is a rare plant confined to granite rocks in the Warby Ranges. It is a rigid dry-country shrub, upright or low and spreading, 1-3 m high.

This is a beautiful lesser-known Wattle with long curving branches and stiff curved leaves which are very even and blue-green in a thriving plant. Each leaf tapers to a sharp spine, and the species is distinguished for its broadened leaf base running down the stem giving a winged effect. The entire plant is smooth and hairless.

Foliage is of the type known as phyllodes and is often found in Wattles of dry or hot regions. A phyllode is a flattened leaf stalk which has probably evolved as a means of conserving moisture in dry areas. It is more efficient in this regard than the feathery, pinnate leaf usually found on Acacias from wetter areas.

Phyllodes are generally thicker, joining the stems firmly with edges facing the sun. They show a great range of shapes and sizes—flat and broad, narrow, needle-like, small spines, triangular and always undivided. Some resemble Eucalypt leaves, but as they have no scent when bruised they are easily recognised as Acacias.

Phyllodes look and act like leaves—the term is from Greek words meaning like a leaf—but their function is not fully understood botanically. For the gardener, however, they give a wide choice in ornamental foliage which tends to be strong and unblemished.

In the open, with deep light soil, weeded and watered, an isolated shrub is fairly heavy and spreads about 5 m along the ground. The form is dense and shapely with long curving branches in various directions, rising to 1.5 m high. Older, rough branches are 6 cm diameter at ground level, and before a plant reaches this size some trimming may be advisable to avoid splitting at the centre.



Acacia triptera: *Acacia*—thought to be from a Greek word meaning to sharpen in reference to prickly species first discovered, or it may refer to the Egyptian Thorn (akakia) which yields gum; *triptera*—three-winged, intending to describe the leaf bases on the stems, like wings

In shallower soil, in shade or with some competition and receiving less moisture, a more lightweight shrub develops. It is likely to be upright and open, with thin branches weeping or curving gracefully.

Young plants in the Gardens flowered first when 70 cm high and two years old from late October to mid-November. Watering was essential until plants were established, and later fairly dry to wet conditions have been tolerated.

An interesting point was noticed about this species during an outbreak of root-rot fungus (*Phytophthora cinnamomi*), caused by prolonged rains which prevented drainage. Most species showed some die-back or even total loss, but *A. triptera* was completely free of this and noticeably healthy.

No frost damage has been recorded and plants are not covered in winter.

Like other Wattles, buds form months before flowering; in this case they are coppery and can be described as seasonal tints as they alter the general appearance of the shrub. Flower spikes are up to 2.5 cm long, one or two to each phyllode well down the stems. For about three weeks in spring the shrubs are a mass of soft, rich yellow flowers.

DIANELLA Spp.

The *Dianella* section of the Lily family has some 25 species in the world—in tropical Asia, the Pacific islands, South America, Africa and New Zealand as well as Australia.

Four of the species occurring in Australia are endemic, and several others extend beyond the continent.

Flax Lily is their general name, from the fibrous nature of the long strap-like leaves; one, *Dianella laevis*, was used by the Aborigines in basket-weaving.

Dianella spp. are tough, fibrous perennials, smooth but not fleshy, with rhizomes which throw thick-rooted shoots. These tufts of leaves are flat and clasping at the base, on thick stalks and loose in the ground when in leafy or moist sandy soil in forests.

Plants live many years, forming spreading patches or tightly packed, round crowns. In low rainfall areas they dwindle, increasing in size in unusually wet years.

The thin, wiry flower stems are up to 1.7 m high according to species, and they branch several times into open sprays around the upper stem. On each small lateral one flower a day opens—the lowest flower opening first—and thus the season is drawn out.

Flowering starts in late October with *Dianella tasmanica*, and the sprays of blue berries hold throughout most of January. A prominent feature of *Dianella* flowers are six erect stamens of orange or yellow, a striking contrast to the blue parts.

The flowers of all species are similar, just under or over 2 cm across and precise stars, for which they are popular as wildflowers. In cultivation they are known mainly to native plant collectors and are scarce, though the above-mentioned species can sometimes be bought.

Propagation is by seed, or by rooted offsets established in moist shady conditions in light soil at a temperate time of year, and plants should be plentiful when the species become better known.

Dianella tasmanica:
Dianella—from Diane, goddess of the hunt—through the woodlands;
tasmanica—from Tasmania, where these plants often grow



In the bush, *Dianellas* may sometimes be confused with another starry blue flower, *Stypandra glauca* (Nodding Blue Lily), of the same family, and native to eastern and Western Australia. This flowers much earlier, however, and its leaves are short, clasping the stem right to the flowers.

Dianellas flower in summer on stems clear of the leaves and only they have blue berries in mid-summer.

Three species grow wild around Canberra, low or on the mountains, or in moister forests of the district in deeper soils. The following rise to sub-alpine levels—

Dianella tasmanica (Blue Flax Lily or Mountain Flax Lily) occurs in New South Wales, Victoria and Tasmania. It is the most robust of the group, the best known and most showy in cultivation, having reached England from Tasmania in 1866. It was then prized as an exotic glasshouse plant for, though other starry blue flowers were known, the addition of glossy blue berries was specially admired.

The leaves vary, up to 5 cm wide and over 1.3 cm long, and the flowers are over 2 cm across. They are clear gentian blue with orange stamens, followed by 1 cm oblong berries.¹

Examples in Canberra Botanic Gardens have grown rapidly with controlled watering. One, in full sun among boulders, is a dense clump 2 m across at four years old. Another under trees among natural litter and with variable moisture has made an open patch 4 m by 1 m with leaves 70 cm long, at 20 years old.

In general a loose ground surface, with some shade, tends to encourage running offsets, while full sun and open ground encourage compact plants.

Dianella revoluta (Flax Lily) grows wild in Canberra and in all States. It is smaller than the above species and the leaves are very straight, with margins slightly turned back. Oblique tufts in patches can be seen surviving for years in dry conditions, and the plant is still to be found not far from Canberra city.

In Canberra Botanic Gardens, plants in full sun among boulders are round and dense with leaves 1 m high and flower stems about the same, with flowers a little smaller, and a darker blue than *D. tasmanica*. The berries are round, less than 1 cm across and a similar blue.

Nearby, in the same dry spot can be found *Dianella laevis* (Smooth-leaved Flax Lily), a species newly recorded for Canberra² and found throughout eastern Australia. The same plants have been observed for some

years on a grassy bank with a few small Eucalypts, a rich area in past years.

In droughts they are mere tufts with the odd 70 cm flowering stem; they are in flower from mid-December to mid-January, followed by small roundish blue berries.

The flowers are 2 cm across, pale flax blue with orange stamens and with a beautiful scent of carnations.³

In the Canberra Gardens, watered plants in full sun have soft blue-green leaves 70 cm long and flower stems to 1.7 m high opening till late January. At this time, some develop small leafy bulbils in place of berries and these may be used for propagation in cool glasshouse conditions.

1. 1941 RHS Colour Chart: Flowers, gentian blue 42; 1966 Chart: Flowers, violet-blue 94A & B; 1941 Chart: Berries, hyacinth blue 40 and moorish blue 739; 1966 Chart: Berries, violet-blue 93B.

2. Confirmed by Mr Max Gray, Division of Plant Industry, CSIRO, Canberra.

3. 1941 RHS Colour Chart: Flowers, flax blue 642/1 & 642/2; 1966 Chart: Flowers, violet-blue 92C & D; 1941 Chart: Stamens, cadmium orange 8/1; 1966 Chart: Stamens, yellow-orange 23B.

BLANDFORDIA NOBILIS

Christmas Bell (*Blandfordia nobilis*) is a small plant of the Lily family, one of only four species in this eastern Australian group. It entered cultivation in 1803 as a glasshouse plant in England, followed by the other *Blandfordia* spp. They are popular in Australia as wildflowers, but only native plant enthusiasts cultivate them in home gardens.

The species grows wild in the sandstone country of New South Wales, in coastal heath and in the mountains, but not in cold, dry regions. It is found also in open patches

Blandfordia nobilis:

Blandfordia—after George, Marquis of Blandford; *nobilis*—famous, noble

of pure sand with good rainfall, in water seepage areas and in swampy heath.

Among the many beautiful heath species, Christmas Bell is prominent in form and colour with its erect stems and bicoloured, firm bells. Nothing else has its tones of orange, through scarlet to blood-red tipped with saffron yellow, or paler tints of these including salmon pinks.¹ Flowers entirely yellow are seen occasionally.

Plants are dainty in appearance, but robust, with thick fibrous roots, not bulbs, which can spread to form strong and long-lived clumps in the right garden conditions. They brighten small spaces in the garden during summer, are unaffected by heat waves, and can have a permanent place in a deep rockery pocket, increasing without disturbance. Deep, sandy, lime-free soil is needed, and in Canberra the plants benefit from the general shelter of nearby taller herbs and shrubs.

Stiff grassy leaves form compact clumps up to half the height of the flower stems. They are about 1 cm wide with rough margins which are most interesting when magnified, being unevenly notched or undulating with some blunt or curved teeth, often all on one leaf.

1. Horticultural Colour Chart, Royal Horticultural Society, London 1941—Jasper red 018, with saffron yellow 7/1 (i.e., RHS Chart 1966 red 39A with yellow-orange 21B). RHS Chart 1941 Poppy red 16/1 with maize yellow 607 (i.e., RHS Chart 1966 orange-red 33B with yellow-orange 21C).



The bells are 4 cm long and about 1 cm wide in a cluster near the top of the main stem, hanging on curved stems. They are thick, fairly shiny and scentless.

In Canberra Botanic Gardens, several groups are thriving, raised from seed collected in April 1968, and sown under glass

while fresh. This germinated at intervals yielding several hundred plants which were potted up singly, hardened off in the large airy shade house and planted out at about 18 months old. Great care was taken at all stages not to disturb the roots. Some plants produced the first small flowering stems from 18 months later.

One group is in an open bed with no mulch, but topped with several centimetres of fine local river sand which is often hot and dry between the regular waterings. The bed slopes gently and there has been some washing away in sudden storms. As a result not all plants have survived here, though a number are thriving with strong upright stems nearly 80 cm high.

The best examples are on the bank of a shallow hollow at the foot of the Gardens where the soil is naturally deep and light with fairly constant moisture, in full sun but with shrubs behind. It is an area of natural water seepage used for moisture-loving and bog plants.

Clumps now flowering for the second summer have up to six stems each and the first stems of the season are the strongest, over 80 cm high and almost woody. These have over 30 bells to the cluster. They open from mid-December and the season continues with smaller later stems of five or more bells until February. They are fadeless, even during high temperatures.

Meantime, seed is setting and the long capsules turn to point upwards as stiffly as the flowers point down. This is a device in nature to aid the free scattering of seeds.

Christmas Bells are a general name for *Blandfordias*, and two others are grown in Canberra Botanic Gardens.

B. grandiflora (syn. *B. flammea*), the large-flowered Christmas Bell of New South Wales and southern Queensland, is in the sections mentioned. It came into flower for the first time in the third week of January about 18 months from planting out.

B. punicea, the Tasmanian Christmas Bell, is hardening off in small pots in the shade house awaiting planting out around April. Like the other *Blandfordia* spp., it germinated very freely from fresh seed, appearing at intervals over three months and yielding several hundred healthy plants.

Plants outdoors are winter-hardy in these Gardens, and receive annual light dressings of blood and bone and occasional dressings of 10:9:8 fertiliser.

In garden planning Christmas Bells combine well with *Dianellas* (described elsewhere in this volume), which have arching sprays of glossy blue berries in January.



Blandfordia grandiflora: *Blandfordia*—after George, Marquis of Blandford; *grandiflora*—large-flowered.

BAUERA RUBIOIDES

Along with other famous Australian plants, Dog Rose (*Bauera rubioides*) is often pictured in books showing the most striking and beautiful native species. It is popular in many native-plant gardens and is not difficult to obtain, being easily raised from seed or cuttings.

Three *Bauera* spp. are known, and these are to be found growing in the wild in only the eastern States of Australia and Tasmania. Two are in restricted mainland areas only, but *B. rubioides* is widespread throughout coastal regions and in mountains in moist places. In Tasmania, it rises to alpine levels, compact or prostrate where exposed and tall

Bauera rubioides: *Bauera*—after the Bauer brothers, two Austrians who assisted early explorers as botanical painters; *rubioides*—with leaves like those of another plant, *Rubia*



and lax in shade. For example, in forests it covers the undergrowth with a deep tangle of long thin stems, not prickly but impenetrable.

Wiry Scrub, Rose Heath and River Rose are other common names and indicate different habitats with variations in character and size. Flower colours range from pure white through delicate pinks to Petunia purple* and shaded colours. Double-flowered plants are found occasionally and a dwarf form, *B. rubioides* var. *microphylla*, comes true from seed. The various forms grown together make an interesting collection.

If adequate moisture is provided an attraction of the shrub is its dainty, fresh appearance at all seasons and even into old age, due to continuous tip growth and light-green healthy foliage. Thin straight stems spring evenly from the plant down to ground level, eventually interlacing and hiding all aged branches. Hairs on stems and young leaves give a feathery effect.

For vigorous growth good watering is needed and in hot, dry conditions plants are sparse and poor, and may die. However, this is a resilient species and can recover from a small amount of live wood if watered in time.

Plants succeed in shade or with afternoon shade and if the plant is to be isolated, shelter from strong winds is needed to avoid the drying out of both roots and top. Lime-free light soils are suitable and coarse sand or old compost must be added to soil which is heavy or compacted.

Thriving plants can be had in full sun with only moderate watering if the bed is mulched 5 cm deep with bark chips, compost or gravel to keep soil moisture and temperatures even. Such plants are sturdy with stiff branches straight or arching, and they frequently make dome-shaped ground covers.

Watered plants are bushy without trimming, though this can be done to turn the species into a hedge if desired. It can also be used in a large rock setting as among natural boulders.

Groupings for extensive ground covers can be seen in Canberra Botanic Gardens in a bed of three dozen plants, sunny most of the day. They were thinned out by droughts while young, but the survivors have merged into a bank of interlacing growth, self-protecting and needing minimum watering. Cold brings up attractive purple and bronze tints in the plants in this open position and no winter protection is necessary.

* Horticultural Colour Chart, RHS, London, 1941, Cyclamen purple 30/1. RHS Colour Chart, London, 1966, Red purple 74B.

Growth rate in light soil and the open position is about 1 m high and 3 m across in eight years and the tallest example in these gardens is 1.5 m high at the same age.

The leaves are in horizontal whorls, widely spaced and shining in the sun. Each whorl consists of two opposite leaves each with three very even leaflets. They continue down the stems for the full length and are unblemished at all seasons.

The flowers are delicate shallow cups up to 2 cm across on 25 mm long stems. The number of petals varies in number from four to ten around a cluster of yellow-tipped stamens. There is a slight resemblance to a small wild rose, but Dog Rose is not closely related to the European *Rosa canina*.

Flowers cluster profusely in November towards the ends of branches and lateral stems, often facing down and showing neat reddish calyx lobes. Flowers open at least eight months of the year on a watered plant, and even in winter some branch can generally be found with a few flowers open.

Sprays of flowers last well in water, and as

they are light in weight they are perfect for shallow bowls.

Root-rot fungus (*Phytophthora cinnamomi*) has been the only disease noted in a wet year when this soil fungus reached and infected species normally liking moisture. *B. rubioides* was badly affected with the typical die-back, but all signs of this were later covered and plants grew away as if purposely trimmed for bushy growth. The species is generally regarded as being resistant to *Phytophthora*.

Showy Bauera (*B. sessiliflora*) is a beautiful shrub restricted to the Grampians area of Victoria. It is stiff and upright, 1-1.5 m high, with open branching and rose magenta flowers close on the stems. Young plants can sometimes be obtained from specialist dealers in native plants. Moisture is essential for Showy Bauera in the garden.

B. capitata is a small shrub of the central coast of NSW. It has been grown successfully from cuttings but no success has been achieved in later cultivation. The species is worth persevering with as it would make a delightful rockery plant.



Bauera rubioides

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BACK COVER

Eucalyptus caesia: *Eucalyptus*—from Greek words, eu, good or well, and kalypto, meaning one cover, alluding to the calyx which forms a close lid over the flower bud; *caesia*—from the Latin word meaning bluish (the leaves).

FRONT COVER

Pimelea ferruginea: *Pimelea*—from the Greek, pimele, meaning fat, alluding to the oily seeds; *ferruginea*—rusty, possibly alluding to reddish bracts subtending the flowers.